

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on September 11, 2002. Claims 23, 27, 29, 32, 36, 39, 40, 51 and 57 are amended, and claims 63 - 67 are added; as a result, claims 23 - 67 are now pending in this application.

Double Patenting Rejection

Claims 23, 32, 34, 36, and 39 were rejected under the judicially created doctrine of double patenting over claims 1, 3, 4, and 33 of U.S. Patent No. 6,096,457. Applicant will appropriately address the double patenting rejection when all of the pending claims are otherwise found to be allowable.

§102 Rejection of the Claims

Claims 23-29, 31-33, 36, 38-42, 45, 46, 51, 53-58, 61, and 62 were rejected under 35 USC § 102(b) as being anticipated by Gortych et al. (U.S. Patent No. 5,680,588).

With respect to amended independent claim 23, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a restrictor to restrict light from passing through a first region having a first perimeter, to pass light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter, and to adjust illumination parameters associated with the first perimeter and the second perimeter, as recited in the claim. Claims 24-26 depend on amended independent claim 23, and are believed to be patentable at least for the reasons provided with respect to claim 23.

With respect to amended independent claims 27 and 29, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a restrictor to restrict light from passing through a first region having a first perimeter and to pass light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter where parameters associated with at least one of the first perimeter and the second perimeter are optimized to compensate for a phase error in the phase shifting mask, as recited in the claims. Claim 28 depends on amended independent claim 27, and is believed to be patentable at least for the reasons provided with respect to claim 27.

Claim 30 depends on amended independent claim 29, and is believed to be patentable at least for the reasons provided with respect to claim 29.

With respect to amended independent claim 32, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of an illuminator to restrict light from passing through a first region having a first perimeter and to pass light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter where a number of off-axis illumination parameters associated with at least one of the first perimeter and the second perimeter are optimized to compensate for the effects of the phase shift error, as recited in the claim. Claim 33 depends on amended independent claim 32, and is believed to be patentable at least for the reasons provided with respect to claim 32.

With respect to amended independent claims 36 and 39, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a restrictor to restrict light from passing through a first region having a first perimeter and to pass light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter, as recited in the claims. Claims 37 and 38 depend on amended independent claim 36, and are believed to be patentable at least for the reasons provided with respect to claim 36.

With respect to amended independent claim 40, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a method that includes restricting light from passing through a first region having a first perimeter and passing light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter, as recited in the claim. Claims 41 and 42 depend on amended independent claim 40, and are believed to be patentable at least for the reasons provided with respect to claim 40.

With respect to independent claim 45, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a method that includes varying a depth of focus and varying sigma in and sigma out parameters, as recited in the claim. Claim 46 depends on independent claim 45, and is believed to be patentable at least for the reasons provided with respect to claim 45.

With respect to amended independent claim 51, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a method that includes restricting light from passing through a first region having a first perimeter and passing light through a second region between the first perimeter and a second perimeter that surrounds the first perimeter, as recited in the claim. Claims 52 - 56 depend on amended independent claim 51, and are believed to be patentable at least for the reasons provided with respect to claim 51.

With respect to amended independent claim 57, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a system that includes a restrictor adjustment to adjust off-axis illumination by adjusting at least one parameter associated with at least one of a first perimeter and a second perimeter that surrounds the first perimeter and to restrict light from passing through a first region defined by the first perimeter and pass light through a second region between the first perimeter and the second perimeter, as recited in the claim. Claim 58 depends on amended independent claim 57, and is believed to be patentable at least for the reasons provided with respect to claim 57.

With respect to independent claim 61, Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a system that includes a restrictor sigma in and a restrictor sigma out, as recited in the claim. Claim 62 depends on independent claim 61, and is believed to be patentable at least for the reasons provided with respect to claim 61.

Allowable Subject Matter

Claims 30, 37, and 52 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

New independent claim 63 recites language found in unamended claim 30 and in unamended independent claim 29 upon which claim 30 depends. Thus, new claim 63 is believed to be patentable.

New independent claim 64 recites language found in unamended claim 37 and in unamended independent claim 36 upon which claim 37 depends. Thus, new claim 64 is believed to be patentable.

New independent claim 65 recites language found in unamended claim 52 and in unamended independent claim 51 upon which claim 52 depends. Thus, new claim 65 is believed to be patentable.

Applicant acknowledges with thanks the allowance of claims 34, 35, 43, 44, 47-50, 59, and 60.

New Claims 66 - 67

New independent claim 66 recites language found in unamended claim 53 and in unamended independent claim 51 upon which claim 53 depends. Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a method that includes providing a restrictor sigma in and a restrictor sigma out for controlling the light source, as recited in the claim. Thus, new claim 66 is believed to be patentable.

New independent claim 67 recites language found in unamended claim 55 and in unamended independent claim 51 upon which claim 55 depends. Applicant is unable to find, among other things, in the cited portions of the Gortych et al. reference either a showing or suggestion of a method that includes varying a depth of focus and varying sigma in and sigma out parameters, as recited in the claim. Thus, new claim 67 is believed to be patentable.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6960 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

CHRISTOPHE PIERRAT ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6960

Date 12-11-02 By Marvin L. Beekman
Marvin L. Beekman
Reg. No. 38,377

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 11 day of December, 2002.

Name

Tina Kohout

Signature

[Signature]